DEPARTMENT OF INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Endangered Status for the Speckled Pocketbook (Lampsilis streckeri)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines the speckled pocketbook mussel (*Lampsilis streckeri*) to be an endangered species under the Endangered Species Act of 1973 (Act), as amended. This freshwater mussel is restricted to the Middle Fork Little Red River with a range of not more than 6 river miles in Van Buren and Stone Counties, Arkansas. The speckled pocketbook has been impacted by reservoir construction, water pollution, and channel modification. This rule implements the full protection of the Endangered Species Act of 1973, as amended, for this freshwater mollusk.

EFFECTIVE DATE: March 30, 1989.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Jackson, Mississippi, Field Office, U.S. Fish and Wildlife Service, Jackson Mall Office Center, Suite 316, 300 Woodrow Wilson Avenue, Jackson, Mississippi 39213.

FOR FURTHER INFORMATION CONTACT: James H. Stewart at the above address (601/965–4900 or FTS 490–4900).

SUPPLEMENTARY INFORMATION:

Background

The speckled pocketbook (*Lampsilis streckeri*) was described by Frierson in 1927 with the type locality an unspecified site on the Little Red River, Arkansas. The species has been reported from Onion Creek, Travis County, and Salado Creek, Bell County, Texas; from the Arkansas River drainage, and from Archey Fork of the Little Red River, Van Buren County, Arkansas (Clarke 1987). The speckled pocketbook was collected from the South Fork of the Little Red River near Clinton, Arkansas in 1984 and 1985 (John Harris, personal communication). Dr. Arthur Clarke collected the speckled pocketbook from the Middle Fork of the Little Red River in 1986.

The record of *L. streckeri* from the Arkansas River drainage reported as *Actinonaias streckeri*, was determined by Johnson (1980) to be the result of misidentification with the specimens actually being *A. rafinesqueana*. The Texas records of *L. streckeri* either cannot be confirmed or are misidentifications of *L. bracteata* (Clarke 1987). The Texas streams are low-gradient and do not provide the required habitat. Numerous recent collections in these streams have contained *L. bracteata* but not *L. streckeri*. The only confirmed sites are in the watershed of the Little Red River.

The speckled pocketbook is a thin mussel about 80 mm long. The shells are ellipitical, dark yellow or brown with chevron-like spots, and rays that are chain-like (Frierson 1927). The shells exhibit sexual dimorphism with the females becoming broader and more evenly rounded posteriorly. It can be confused with species of similar shell morphology unless an individual is knowledgeable of mussels and is very observant.

Villosa vibex occurs in streams to the south and east of the State of Arkansas, and is very similar to *L. streckeri* based upon only shell morphology. However, characters of the mantle flap differ. Members of the genus *Lampsilis* have a very distinctive mantle flap in the soft parts. In *Lampsilis streckeri*, the mantle flap resembles a small minnow with a small pigment spot and about 5 triangular processes providing a flaring appearance. This unique mantle is apparently used to entice fish close enough for the mussel's larval or glochidia to attach.

Other similar species are *L. reeveiana*, *L. radiata siliquoidea*, and *L. bracteata*. In all three of these similar species, the shell lacks the chevron-like spots and the rays are continuous rather than ribbon-like. *Lampsilis bracteata* is only reported from Texas. In *L. r. siliquoidea*, the rays are limited to the posterior slope of the shell or become faded before reaching the ventral margin (Burch 1975). *Lampsilis reeveiana* further differs by having a large pigment spot and up to twice the triangular processes on the mantle flap (Clarke 1987).

The current known range of *L. streckeri* is limited to about 6 miles of the Middle Fork of the Little Red River in Stone and Van Buren Counties, Arkansas. Adjacent land in this area is privately owned. The species is found in coarse to muddy sand in depths up to 0.4 meters (1.3 feet) with a constant flow of water. This constant flow of water suggests a requirement for well oxygenated conditions and supports Clarke's (1987) conclusion that it cannot survive in pool conditions. Within the Middle Fork, the known range is between the confluences of Meadow Creek upstream and Tick Creek downstream. Above Meadow Creek, the Middle Fork is reduced to intermittent flows during dry periods. From the confluence of Tick Creek downstream to the influence of Greers Ferry Reservoir, the habitat appears suitable for *L. streckeri* but is devoid of live mussels. The species has apparently been extirpated from the remainder of the Little Red River system. The impoundment of Greers Ferry Reservoir and the resulting cold (hypolimnetic) discharges altered virtually all of the mainstem. Channel modifications in Archey and South Forks have modified much of the habitat and likely caused increased water velocities that altered the remaining habitat in these streams.

The species was listed as a candidate (category 2) in the notice of review published on May 22, 1984, in the **Federal Register** (49 FR 21664). Category 2 species are those taxa for which the Service needs additional information before proposing to list the species. The proposed rule to classify *L. streckeri* as endangered was published on July 25, 1988, in the **Federal Register** (53 FR 27884).

Summary of Comments and Recommendations

In the proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice inviting general public comment was published

in the "Arkansas Democrat," Little Rock, Arkansas, on August 7; in the "Arkansas Sun," Heber Springs, Arkansas, and in the "Cliburne County Times," Heber Springs, Arkansas, on August 10; and in the "Arkansas Gazette," Little Rock, Arkansas, on August 14, 1988. Four comments were received. Two State agencies commented in support of the proposed rule. One private individual simply requested more information. A county agency did not oppose the listing, but requested the Service to conduct a thorough study of this species to ensure that it is endangered before placing this species on the list. The survey conducted by Clarke was funded by the service to answer the questions presented by this response, and in the view of the Service, the study provides all the data necessary for this determination. Other surveys were also reviewed in making this determination.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that the speckled pocketbook *(Lampsilis streckeri)* should be classified as an endangered species. Procedures found at Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be endangered or threatened due to one or more of the five factors described in Section 4(a)(1). These factors and their application to the speckled pocketbook *(Lampsilis streckeri)* are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* The speckled pocketbook once occurred in the Little Red River and three tributaries, Archey, South and Middle Forks. The scarcity of collecting records prevents the delineation of the historic range within this system. From what we know of the mussel's preferred habitat and of the Little Red River, the speckled pocketbook very likely occurred in the stretch of river now impounded by Greers Ferry Reservoir, and in the downstream area now altered by the reservoir's cold (hypolimnetic) discharges. The lentic conditions imposed by the reservoir and the hypolimnetic discharges undoubtedly eliminated any speckled pocketbook population in this stretch of river. Archey and South Forks have been modified for flood control. The modification of these channels are the likely cause of the species' apparent disappearance from these tributaries. The small population of speckled pocketbooks in the South Fork, below the confluence with Archey Fork, apparently have been extirpated by floods scouring the mussel's habitat (Clarke 1987). This scouring likely results from increased water velocity due to channel modification upstream. The only remaining population of the speckled pocketbook is in the Middle Fork Little Red River, Van Buren and Stone Counties, Arkansas (Clarke 1987). Threats to the Middle Fork population appear to be some unidentified and intermittent water pollution from the vicinity of Tick Creek's confluence. The presence of mussel shells in the Middle Fork downstream of Tick Creek and the lack of live mussels of any species indicates a pollution event that eliminated all mussel fauna in this stretch. This river reach down to the influence of Greers Ferry Reservoir still provides suitable habitat for the speckled pocketbook, and the species could probably be reestablished if high water quality is maintained.

B. *Overutilization for commercial, recreational, scientific or educational purposes.* The only known population is restricted to a short reach of one river and consists of only a few hundred individuals (Clarke 1987). Any collection of live individuals from this area would further reduce a population that is already limited and possibly declining. This species has not been known to have been subjected to any previous commercial purpose.

C. *Disease and predation.* Disease is not an apparent threat. The preferred habitat is in shallow water and this makes the species more vulnerable to predation by raccoons and muskrats.

D. *The inadequacy of existing regulatory mechanisms.* The species is not protected by any existing Federal or State regulation. Arkansas requires a scientific collecting permit for anyone to collect any species of mollusc. This permit requirement is very difficult to enforce and generally receives a low priority from law enforcement personnel.

E. *Other natural or manmade factors affecting its continued existence.* The fish host for the juvenile stage of the speckled pocketbook is unknown; therefore, impacts on this aspect of the mussel's life cycle cannot be evaluated. The Middle Fork population range is limited upstream by law or non-existent water flows during the dry months of the year. Much of Archey and South Forks have intermittent water flows during dry seasons, which may be partially due to flood control work discussed under Factor A. The population is so limited that isolated gene pools that are vulnerable to loss of genetic variability are a distinct possibility. This mussel depends upon water currents to transport gametes from one individual to another. The reduced density of the population decreases the likelihood of successful reproduction.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this rule final. Based on this evaluation, the preferred action is to list the speckled pocketbook as endanged. Endangered status is determined because of the very limited range in one stream, small population size and vulnerability to a single event. Threatened status is not appropriate because the species is restricted to a short stretch of a single river. Critical habitat is not determined for this species for reasons given in the next section.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate any habitat of a species that is considered to be critical habitat as the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for this species at this time owing to lack of benefit from such designation. No additional benefits would accrue from a critical habitat designation that do not already accrue from the listing. Precise locality data are available to appropriate agencies through the Service office described in the ADDRESSES section. All involved parties and land owners will be notified of the location and importance of protecting this species' habitat.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires the recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions

against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may adversely affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

Federal involvement is expected to include the U.S. Army Corps of Engineers channel maintenance activities and Environmental Protection Agency pollution control and pesticide use programs. The Corps of Engineers conducts channel maintenance for flood control on Archey and South Forks, both of which could be important to the survival and recovery of this species. The Environmental Protection Agency would be involved with efforts to prevent water quality degradation and to approve the use of pesticides within the known range of this species.

The Act and implementing regulations found at 50 CFR 17.21 set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of a commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions would apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22 and 17.23. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available. Since this mussel is not known to be involved in any commercial activity, no request for relief under such a permit are expected.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to Section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

Burch, J.B. 1975. Freshwater Unionacean Clams (Mollusca: Pelecypoda) of North America. Malacological Publ. 204 pp.

Clarke, A.E. 1987. Status Survey of *Lampsilis streckeri* Frierson (1927) and *Arcidens Wheeleri* (Ortman and Walker 1912). A report to the U.S. Fish and Wildlife Service. 24 pp. plus filed notes.

Frierson, L.S. 1927. A Classified and Annotated Check List of the North American Naiades. Baylor University Press, Waco, Texas. 111 pp.

Johnson, R.I. 1980. Zoogeography of North American Unionacea (Mollusca: Bivalvia) North of the Maximum Pleistocene Glaciation. Bull. Mus. Comp. Zool. 149(2):77–189.

Author

The primary author of this final rule is James Stewart (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Regulation Promulgation

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

PART 17—[AMENDED]

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93–205, 87 Stat. 884; Pub. L. 94–359, 90 Stat. 911; Pub. L. 95–632, 92 Stat. 3751; Pub. L. 96–159, 93 Stat. 1225; Pub. L. 97–304, 96 Stat. 1411; Pub. L. 100–478, 102 Stat. 2306; Pub. L. 100–653, 102 Stat. 3825 (16 U.S.C. 1531 *et seq.*); Pub. L. 99–625, 100 Stat. 3500, unless otherwise noted.

2. Amend § 17.11(h) by adding the following, the alphabetical order under "CLAMS", to the List of Endangered and Threatened Wildlife.

§ 17.11 Endangered and threatened wildlife.

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Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Clams							
*	*	*	*	*	*		
Pocketbook, speckled	*Lampsilis streckeri*	U.S.A. (AR)	NA	E	345	NA	DNA
*	*	*	*	*	*		

Dated: January 30, 1989.

Becky Norton Dunlop,

Assistant Secretary for Fish and Wildlife and Parks.

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